Geostationary Lightning Mapper Satellite Liaison Activities for 2016

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NASA's Short-term Prediction Research and Transition (SPoRT) Program's efforts in preparing for the Geostationary Lightning Mapper (GLM) received further recognition in 2016 with a team member joining the GOES-R Satellite Liaisons focusing on the GLM. Unlike most of the other liaisons, SPoRT's GLM liaison is focused on a specific instrument versus a specific center. Part of this activity has gone towards evaluations with the various proving ground testbeds. These activities are covered in the poster, "*An Overview of GOES-R Proving Ground and Risk Reduction Program Activities.*" This presentation will focus on related work that has been done with partners in the aviation and emergency management community.

The work that has been done has utilized the ground-based lightning mapping arrays to provide a real-time demonstration product for the GLM. Unlike the GLM, these networks are short-ranged and constrains activities to a relatively small region. In spite of this limitation, these collaborations have shown a great deal of interest incorporating future GLM data into operations to address a number of operational concerns.

One avenue of collaboration has been with the Houston, Texas Center Weather Service Unit. Given the range of the lightning mapping array, the assessment has investigated the use of total lightning observations supporting aircraft flight operations in the Terminal Radar Approach Control TRACON airspace; roughly 50 miles away from an airport. Future GLM observations will be instrumental in identifying and monitoring convection in this complex region of air traffic as aircraft arrive, depart, and are changing altitude. This has also served as an excellent training opportunity to familiarize forecasters with GLM capabilities now and where it can be used in the future as GLM will not have the range restrictions of the lightning mapping array.

A separate collaboration has focused on a key National Weather Service end user, the emergency managers. This has been an initial collaboration with WFO Morristown, Tennessee and the Chattanooga / Hamilton County, Tennessee emergency managers. This effort has been geared specifically towards lightning safety applications. The evaluation has investigated how best to provide these data, training needs, and how effective future GLM data will be based on real-time, ground-based lightning mapping array observations.

This presentation will describe the two efforts listed above. Also, much of the work done here has guided work done for the GOES-R Foundational Course and SOO/DOH Prep Course for GOES-R training activities. Lastly, future efforts for the GLM liaison, including an operational assessment of GLM and applications training will be discussed.